



CALIFORNIA GARDEN

IN THIS NUMBER

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By Ruth R. Nelson

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By Nellie L. Hon

NOVEMBER, 1931

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BEGONIAS

Eva Kenworthy Gray

It is not so many years ago that we could count the Canes on the fingers of one hand, but now, since there has been so many seedlings propagated we have them in all shades of red, pink, and white.

By the Canes, I mean the Rubra type begonia with their smooth green leaves, edge entire or slightly wavy, and shooting up tall canes from the root. For many years the old Rubra has been grown and cherished in eastern households, but now there seems to be a scarcity of the old stock and we have fallen back onto the seedlings, which, though they are much like the old, still vary a little in the shade of red. It does seem to be the way for the old types to drop out and the newer ones to come along to take their place. Sometimes they are better, either being more hardy, or of a better color in the flower and more profuse bloomer.

The Rubra type is still known to many as the "Angel Wing" and even I find many growers in plants do not know it by any other name. The Pink Cane came along several years ago and was hailed with delight as a variation of the old red. It is an unusually strong grower and will attain quite a height, especially when grown in beds under lath. This was at first called the "Pink Rubra," the pink being the color of the flower and the Rubra representing the species. However, we soon came to see the absurdity of the name and now speak of it as simply the "Pink Cane."

Marjory Daw is said to be a cross between a Rubra and a *Glaucophylla scandens rosea*, and may be classed as either a climber or a trailer. In Florida it is known as the Climbing Begonia and is trained up on the end of the porches there. I've seen a specimen growing on the north side of the house and in a rather protected situation, that reached up to the second story window. And again I've seen it growing in a box on a high shelf and reaching down with its long branches until it gave the appearance of a green wall, and when this was

covered with its scarlet flowers it was a thing of beauty.

Then we have the so-called "White Rubra" which never proved a strong grower and now is seldom found. Then Shasta came into being and also has proven a rather delicate grower, though lovely, but we get rather discouraged when a begonia has to be petted too much. The leaf of Shasta is rather unusual in shape, having a long sharp point on the upper end and is also rather pointed on the bottom end. The flowers are a pure white and not very closely set on the branches, but coming at intervals.

A new white cane, Astolat, (from the "Lily White Maid") has proven a sturdy grower with an abundant floral display all along the branch. In fact one seems to spring out from every leaf axil; the clusters are medium large and the leaf is a rather pale green and bears no silvery spots.

Another plain leaved one with palely tinted flowers is "May Queen," so called because the whole branch is a bloom that would liken it to a wreath and fit for the Queen of May.

Sharon is a larger grower with darker leaves and with silvery spots sparsely distributed. The flowers are a rose pink and not so closely set along its branch, but are some larger than those that bear the clusters so profusely.

Then we have a lovely bi-color in Kulu. This is a real beauty and the clusters are so thick that it gives the appearance of a long bouquet in pink and white. A sturdy grower and throws up a long cane that threatens to reach the roof.

You will find the canes in between shades, too, and if one has a fancy can plant them in a shaded row, beginning with white and on down to the intense scarlet. Thus trained on a lattice work and the upper branches intermingling it would be a breath-taking sight. I know, for I've seen something of the kind, though not a graduated design, but all sorts mixed.

Patronize the Garden Advertisers.

Several members of the Begonia Club in the east believe they have the Englerii and say it is exactly like our well known Paul Bruant. Another member who has visited the Kew Gardens of London, England, says this American one is not like the one they have there. We find the description of the Englerii in Bailey's Encyclopedia, and it goes thus: "A striking species growing five feet tall. Red-strigose, scaly and hairy. Leaves large and showy, thin, ovate oblong, deeply and evenly serrate; red veined and spotted. Native of tropical Africa. Flowers pink, borne in long pendulous clusters." Another one says it has a leaf like Gilsonii. From my seedlings from the Kew Gardens, England, this description fits only in places. For one thing the leaf is not spotted, but a clear green both upper and lower; but it is hairy and under the leaf next to the stem is a circle of long green hairs. The veins are red and the edge of the leaf is unevenly serrate I'd say. Leaf is quite large, even on the small plants being $6\frac{1}{2} \times 3\frac{1}{2}$ inches.

One can understand that seedlings will vary as I have found it the case in growing many varieties. I find that in some there will be a "family resemblance," but it is the shape of the leaf that most always differs from the parent more than the flower. The growth may be either larger, or more dwarf, that is what makes the growing of seeds so interesting.

Speaking of *Ecquadorensis* in the east, we here call it *Braziliensis*, so I have been told by a visitor to the eastern shows where specimens were exhibited. And, as a collector in the east wrote, "It could be well known as either as it is found in both Ecuador and Brazil."

The one we call Ecuador has an entirely different appearance from the *Ecquadorensis*. The latter being a low grower with bright green almost round leaves and heavily netted. Ecuador is a medium tall grower with large deeply divided leaves tinged with bronze. The light pink flowers are called double from the many small stamens that fills the center; the petals are wavy and the cluster quite large.

PERENNIAL GARDENS

By H. Stuart Orloff

(The Macmillan Co., 1931; \$1.25)

A Californian using this book will have to interpret the advice on varieties and succession of bloom according to his own conditions. None the less, anyone wishing to plan out a small garden effectively will find this little handbook a useful one, particularly because of its quite detailed treatment of color harmonies and the numerous planting diagrams, most of which are very interestingly worked out and easily adaptable to slightly varying sites.

—S. S. B.

A VALUABLE WEED

By Ruth R. Nelson

November finds tangled thickets of dried weed-like stems replacing clumps of tall, slenderly-branched blossom stalks of the native amole (*Chorogalum pomeridianum*) which has blossomed hardily throughout the dry months of summer, outlining our highways and ornamenting every canyon nook and hillside meadow, with its dainty star-like flowers, while it also reminds us of interesting Indian lore and Spanish customs which are still said to survive among the descendants of early California families.

Without a doubt the amole was the best-known and the most useful wild soap-plant in all of California. From the large, fibrous-coated bulbs of this plant a soapy lather can be quickly made, and these bulbs were in constant use by the Indians and Spanish-Californians as a substitute for soap. In her story of "My Years With Chief Solano," Isadora, Princess Solano, declares that "this soap (the amoles) does better washing than any kind made by man. It takes out every spot, and does not burn the body or irritate the skin." Many *Senoritas* are known to have preferred the lather of the amole for shampooing their long thick hair, and a hair tonic was sometimes also prepared of the pounded bulbs. Stories are still current of families who continue to make use of this natural soap on their regular washing day.

The natural curiosity and investigating nature of the Indians, which led them to scrutinize and experiment with every known plant and herb, discovered to them several important uses for the countless bulbs of the amole, the location of which could be so easily discovered by its typical wavy leaf, or tall flower stalk. It was the Indians who taught the white men to use the inner portion of the amole bulb as a salve for poison-oak rash. They, themselves, had a custom of sending squaws with large baskets of soap-plant bulbs to fresh water pools where they hoped to catch fish. When a thick lather, made by rubbing the bulbs together, was allowed to float down and cover the surface of the pool, the fish became stupefied and came to the surface, where the Indians easily took them out at their ease.

Although the soap plant is one of the first annuals to appear in the spring, wearing its wide wavy grass-like leaves of polished green, yet its blossom does not follow until the very end of the flower procession, when even the late yellow mariposa has disappeared and almost nothing, save the chaparral shrubs, is in flower. Late in June the amole seems to suddenly awake to its annual duty. It then sends

up a slender branching blossom stalk which grows with amazing rapidity to a height of from three to six feet. Each thread-like stem bedecks itself with tiny flowers, of palest lavender, which open suddenly in the late afternoons, and sway upon their slim leafless stems like dainty fairy lanterns. During the part of the day when the flowers are "asleep," the tall plants when viewed from a distance, give an odd impression of having had tiny white feathers, or bits of cotton, blown against them.

When we remember that a box of soap was the one prized article which Father Serra insisted upon keeping under his personal supervision during that long journey overland from Lower California to establish missions at San Diego and Monterey, in 1769, we are inclined to believe that the California soap-plant, so plentiful and so widely distributed, must have been a welcome discovery to the early settlers.

A variety of amole which grows in the vicinity of Yosemite Valley makes a much more luxuriant growth than that of the coastal soap-plant. Accounts of the old days of the gold rush disclose that during that time when all sorts of commodities were scarce, and prices soared skyward, the tough fibrous coats of the soap-plant bulb were pressed into service for stuffing mattresses.

Other native plants were constantly used in the early days as soap-plants. The wild lilac when in blossom furnishes a delicately perfumed lather which is surprisingly adequate. But amongst the various herbs used for this purpose the interesting amole remains best known and probably was most used in the early days.

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DAHLIA ROOTS AS HOG FEED

Unusual questions are commonplace in the mail of the United States Department of Agriculture. Often the answers provided by the specialists in the various bureaus of the department bring to light facts of a sort not anticipated in the request for information.

An interesting example occurred recently: The editor of an agricultural paper in the South could not answer when a subscriber inquired whether dahlia roots could be used for hog feed. He passed the question along to the press service of the department. The press service could not answer. A specialist in the feeding of swine had never heard of dahlia roots as a part of a menu for porkers. But Dr. David Griffiths, bulb culture specialist, was able to answer the question. Dahlia roots have some nutritive value and would not be poisonous to swine. He added that the original importations of dahlias into this country were made with the intention of using the roots for human food, a bit of information of interest to dahlia fanciers.

OLD TOWN PLAZA

It has been said that a prophet is not without honor save in his own country, and, to a certain extent, is this true of parks as well as of prophets. In this land of numerous parks, too many people seem to have fallen into the habit of using their pathways solely as thoroughfares, and pass through them seemingly intent only on reaching their destinations, unmindful of all the beauty surrounding them. But this is scarcely true of Old Town Plaza. Owing to its location and its small size, it offers many convenient short cuts to pedestrians, and they are not slow in availing themselves of the offer. Old-timers especially, regard it with pride, as they look upon it as a fitting tribute to the days long dead.

It seems almost incredible that only three short years ago this little gem of a park, North San Diego's fairest possession, was only an open common, drought-stricken, and littered with sticks, stones, drifting leaves, and wind-blown papers. Only patience and loving, understanding care could have made this bit of desert soil "to blossom like the rose" in so brief a space of time. The old-time trails, the sun burned areas and the dust-laden weed patches have given way to well-kept paths, emerald lawns, and luxurious borders of flowering trees and shrubs and trailing vines.

Many a tourist stops to admire; many a man takes a midday siesta in the seclusion of some sheltered nook, and workers from the nearby factory oft spend the noon hour upon the inviting lawns. The children love it and often, after the tasks of school are over, gather there to discuss the happenings of the day and frequently in the cool of summer evenings little groups of mothers, worn by the long hours of heat and toil, bring their little ones to rest and play upon the grass while their elders indulge in a bit of social intercourse.

Interesting, on account of its historical setting, and with its strong appeal to the aesthetic sense, the Plaza's importance as an educational factor should not be underestimated. The majority of people coming from the eastern section of our country find most of our trees and plants almost entirely unknown to them. Many of these newcomers, here either on extended visits or as future residents, express a desire to make acquaintance of this strange, new flora, and nowhere could they find a better place to gratify their desire than this. Here may be found the representative group, composed of the eucalypts, palos verdes, hakeas, tristanias, cork oaks, acacias, cassias, pittosporums, tecomas, abelias, streptosolon, eochromas, cestrums, escallonias, ericas, pyracanthus, cotton-easters, solanums, melaleucas and many others. These same may be found in almost endless repetition and profusion in the vast areas of

Balboa Park in company with hundreds of others. So many, in fact, that the task of learning names and characteristics seems most appalling, the more so as there is no one in sight to give the inquirer helpful information.

In this, the little park has the advantage, as during five days of the week, the caretaker, Mr. Jerabek, who knows his plants as familiar friends, and calls them by their proper names, is on duty, ready and willing to make smooth the way of the would-be-learner in his pursuit of knowledge. Ply him with questions if you will, feeling confident of receiving a correct and courteous answer.

One may well use this park as a plant primer, and having mastered it, may approach that larger volume of plant life, Balboa Park, with confidence and pleasure.

C. M. WILLIAMS.

CEROPEGIA WOODII

Ceropegia Woodii is one of the daintiest pendant vines for use in hanging baskets, usually in conjunction with other basket plants, but equally attractive without companions. Where a softening touch or an irregular drape effect is desired for plant box or bench, it is beautiful and most satisfactory. It will grow many feet in length if allowed to do so.

The name *Ceropegia* comes from the Greek words meaning wax, and fountain, referring to the waxy flowers. The genus contains nearly one hundred species and is native of Africa and Asia. Probably less than a dozen varieties are to be found in America, with *C. Woodii* best known. Certain *Ceropegias* are included in collections of succulents.

C. Woodii grows from small tubers, marble size and larger. Its small, variegated green and white leaves are placed oppositely upon slender stems. The blossoms are like little pink wax candles, tipped purplish brown, and come in pairs, axillary, on the stalks. Bulblets or tubers are also to be found at these junctions.

At one time, we may see upon the same vine, fresh green leaves, many candle blossoms, tubers, and also seed pods, needle-shaped, nearly two inches long. The latter spring open with a fly-away movement, loosing dozens of parachute-like seeds that lodge here and there, making strong seedlings without care.

A partially shady location is best for *C. Woodii*, and any fair soil will suffice, although leaf mold is favored. This plant is quite hardy in California, at least.

"Candle Plant" and "Aaron's Beard" are names sometimes given the graceful, pendulous vine.

CONSTANCE D. BOWER.

FOR A SEASIDE GARDEN

Along the coast of central California and a little further north, grows a little daisy of such appealing beauty that it has been encouraged to grow in many a seaside garden and has proved most valuable under cultivation. *Corethrogyne californica* is almost prostrate under exposure and forms a densely leafy mat. The small leaves are gray and the young shoots, as on so many gray-leaved plants, are silver-powdered and are one of its most attractive features. The lavender bud is encased in a tiered calyx of light green and expands into light lavender-pink rays surrounding the bright yellow florets. The silver foliage makes a harmonious setting for the varying shades of lavender-pink.

Upon the ocean cliffs the plant is kept low by the wind and creeps about among gray lichen-covered boulders, silver-dusted dudleyas, yellow Indian paintbrush eriogonums and thrift and other plant lovers of sea air. It can almost be called an ever-bloomer. With the coming of the first rains it takes on fresh vigor and puts out a swarm of buds. It goes on flowering through the winter and early summer, often almost extinguishing the beautiful foliage by the profusion of bloom. During the last months of summer it shows the effect of drought although even in October those plants which lean over the cliffs and live in an atmosphere of moisture are still carrying their bloom. When *Corethrogyne californica* is used as a garden plant it is wise to shear it severely in the late summer or early autumn and by this means enforce a period of rest.

LESTER ROWNTREE,
Carmel, California.

OCTOBER GARDEN VISITS

About a hundred members of the Floral Association and their friends who visited the gardens of those who kept open house on October 11th, felt well repaid for their visit.

Five delightful lath houses, all attractive, all different, each reflecting the individuality of its owners. The lath house of Mr. and Mrs. Clarendon T. Smith, perfection itself; the most exquisite specimens of ferns, begonias, water plants and other choice lath house specimens, including President Carnot, the Gloria or Farleyense, and the crested maidenhair, *Rosea Gigantica*, *Diadem Erecta*; *Giant Bilbergia*, in full bloom. A charming rockery, with pool, waterfall, grotto and fernery.

Another attractive feature was the large bird house where we saw some twenty-five different kinds of birds, about sixty-five altogether; cardinals, blue parakeets, Japanese robins, and a host of others, chattering happily, were fascinating. We could scarcely force

ourselves to leave, but were equally delighted with the other gardens.

Next was that of Mrs. Herman Kingsworth, who, perhaps had the largest and finest collection of Rex begonias which we saw, including a wonderful specimen of Mountain Haze and Edward.

Mr. and Mrs. Russell Aber proved themselves cordial hosts; they have the dearest little lath house, the outward expression of a dream fulfilled. Burls, large and small, from which maidenhair ferns spread their feathery fronds; redwood logs with exquisite farleyense; several "five-finger" ferns, all different. A grizzled old rock that might have told a story of prehistoric times was the outstanding feature of the rockery, which featured ferns especially.

We were amazed to find in the yard some fifty varieties of roses, a gardenia bush in bloom and a well-planned and constructed bulb garden which gives promise of a glory of bloom in the spring.

The lath house of Mr. and Mrs. P. C. Wilson is cosy and homelike, truly an out-of-door living room arranged as a "bridge room" with ample space for eight bridge tables. Here the well-chosen color scheme was a striking note; red rock was used with the red-toned begonias, soft grays and the delicate greens of maidenhairs gave accent while the "piece-de-resistance" was a wonderful specimen of Luxuriant or Olbia in an old copper bucket, truly a masterpiece in color. Little Japanese chimes gave sweet music as the breeze gently moved them; many of the ferns were in great, redwood logs from the Santa Cruz mountains, from which a lovely, five-finger fern also came. Over the lath house wandered a great Concord grapevine with its clusters of luscious, purple grapes hanging temptingly from the roof.

A quaint garden gate gave welcome to the lath house of Mrs. Geo. W. Robbins. This outdoor room was worked out in lichen-covered, natural gray stones. Deep beds, from which rocks protruded, a delightful pool, with its darting goldfish. Here poinsettias and a wisteria, plain and variegated ivy, vied with ferns and begonias for attention and a sweet-voiced canary bade us welcome in cheery tones. The very atmosphere bespoke hospitality and we were loathe to leave this alluring group of gardens.

In contrast to the tropical atmosphere of the lath houses was the "bit of desert," where we found many interesting specimens of cacti at the homes of both the Smiths and the Wilsons.

Wholly different is the home of Mr. Edward Maher, an absolutely perfect garden in minia-

ture. An interesting rock garden, dahlias and roses, a well-planned and effective cactus garden, zinnias, phlox and other garden flowers; a gold-fish hatchery and trout well worked out in onyx slabs; a charming gold-fish pool, a wee fernery, a bit of smooth green turf, a bird-house where running water and other natural features make it truly a birds' paradise. A note of sentiment is shown in a bird-bath, which marks the resting place of a pet canary. An outdoor sleeping apartment is also a delightful living apartment with its radio, telephone, reading lights and easy chairs. A group of comfortable seats faced the garden and invited visitors to rest and enjoy the beauties of this quaint place, tiny, immaculate, perfect.

When we visited Mr. V. M. Sale, we were privileged to wander at will through several gardens, all attractive. Splendid dahlias, some good roses, a cactus garden, two fine specimens of Jacaranda were of interest, but the outstanding feature is a group of some twenty-five kinds of vines, all well chosen and well placed. The Ampelopsis Henryi was beginning to show color and the new Begonia Capriolata was worthy of especial mention.

The rock gardens which Mr. Fred H. Wylie is developing at 4539 Park boulevard in a way prepared us for the fine garden which Mr. Wylie has built at the Church of the New Jerusalem. This is indeed a work of art and a new departure in the way of public planting. Let us hope that many others will follow out this line; it will help to make San Diego still more attractive to all flower lovers.

NELLIE L. HON.

The Chrysanthemum Tea given each fall by the San Diego Floral Association has become one of the most charming traditions in the social life of the city. Despite the rain the exhibit of locally grown Chrysanthemums, November 7 and 8, was well attended and an appreciative group enjoyed a talk by Milton Sessions on the growing of this beautiful plant. Tea was served each afternoon and awards were given to the following: Best collection from a private garden: First, Mrs. John Heermance; second, Mrs. Jennie Owens; special award, Mrs. John Nuttall. Best display of Buttons: First, Mrs. Jennie Owens. Best display of garden varieties: Special award, Mrs. Jennie Owens. Best basket: Miss Mary Marston; second, Miss Lydia Schwieder; special award, Mrs. Fred Scripps. Best vase: Mrs. Paul V. Tuttle; second, Miss Lydia Schwieder; special award, Mrs. Robert Morrisson and Mrs. Fred Scripps. Best floral types: Chas. Winkler. Special awards were given to A. D. Robinson and C. Westegaard.

—C. B. T.

The California Garden

Editor
Silas B. Osborn
Associate Editor
Walter S. Merrill

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
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NOTICE

The next regular meeting of the San Diego Floral Association will be held Tuesday, December 15th, and the speaker for the evening will be Milton Sessions, who will give practical instruction and demonstration on the proper way to prune roses. Because the berried shrubs were at their best in November, the display was held at the last meeting. Blooming flowers and shrubs will be on display, however, and Mr. Sessions will also talk on Christmas greens.

The annual card party given by the house committee of the Floral Association on December 19th was a success in every way. The lovely custom of presenting a pot of blooming cyclamen for table prizes is always a pleasure to the guests. The rooms were very festive with many kinds of berried shrubs and young eucalyptus. Mrs. John G. Morley and Mrs. Mary A. Greer presided at the beautifully appointed tea table.

SCHOOL FOR FLOWER SHOW JUDGES

Those of us who take "Horticulture" will have observed from time to time mention of the eastern activities toward the improvement of flower show judging. The recent notices of the judging school in Chicago again brings to the attention of California gardeners the dire need of regulated judging standards in our state.

All those who have acted as judges of flower shows, who have exhibited or who have been on the board of managers, will recognize the fact that our flower show judging is an exceedingly sketchy affair. Even the most uncritical must admit that our methods are more or less on the loose. There is little preparation, there is a deplorable amount of variation, there is often some show of personal preference. We are at a decidedly youthful period of the game.

California's garden centers are so far apart that it is going to take a master mind to evolve a system of leavening which will bring about satisfactory uniform judging. Several tentative methods of bettering the situation have been proposed by individuals, but nothing, to my knowledge, has been done by a state-wide gardening group. The Garden Club of Illinois seems to have arrived at a very sensible method of producing more competent judges. The three days' intensive instruction which it gives does not do what a thorough course in judging would do but at least it furnishes the rudiments of the science or labor.

If California gardeners could arrange for such a course and interested persons from the gardening centers of the state could attend, they could take back to the judge-minded of their territory such enlightenment as they were able to glean and a start toward better judging would be made.

LESTER ROWNTREE,

Carmel, California.

OCTOBER MEETING

The regular meeting of the San Diego Floral Association was held Tuesday evening, October 21, in the Floral Building, with about 70 members and friends in attendance.

The president, Mrs. Greer, opened the meeting and called upon Mr. Birch to introduce the speaker of the evening, Mr. Fred McNabb, of Los Angeles.

Mr. McNabb is well known to San Diegans, having spoken here on several occasions and through his radio talks. He has been on the air for eight years and the interest of his audience is increasing each year, as is evidenced by the thousands of letters he receives. His

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subject for Tuesday evening was Seeds; what, when and how to plant them and how to care for the plants to protect them from the numerous insects that keep a watchful eye and a whetted tooth for the tender sprouts.

The questions of the members brought out an interesting discussion of the various garden problems with solutions for all of them. Those persons whose experience with seed-growing has been of a rather discouraging nature, went from the meeting with renewed enthusiasm, and Wednesday morning found them in the garden with a spade, a pocket full of seeds and a generous applications of faith, hope and love, ready for another try.

Mr. Jerabek and Mr. Kelly, who in the absence of Miss Sessions, have been so helpful, identified the flowers, vines and berries.

Refreshments were served and the meeting adjourned.

PAULINE BATTEN QUARFORTH,
Secretary Pro-Tem.

CALIFORNIA GARDENS By Winifred Starr Dobyns

(The Macmillan Co.; 1931; \$5.00)

The generality of the title is to some extent belied by the particularity of the contents, for in the state at large we find hardly so great a concentration of its noteworthy gardens within the confines of two communities as a stranger might be led to suppose by perusal of the 208 beautifully executed photographic plates which are comprised in this handsome quarto volume. Even more may the said stranger likewise be warned that while most of the gardens shown tend toward the comparatively arid and sub-tropical in type, there are wide areas in California where the gardens though no less enchanting remain of a wholly different order and tradition. However the aim of our compiler is not so much to illustrate mere beauty of planting as to emphasize the architectural side of garden art, and there is of course no doubt that this phase has attained much greater development in certain of our more leisurely and opulent communities than in others. It means as well that the studied and ornate must here seem to overshadow the more intimate and less assertive, although Mrs. Dobyns rightly tells us that "when the little garden is well done, it inevitably has a charm often lacking in the great estate, because it is of necessity planned for, worked in and puttered over by the owner himself. This is what gives that intimate quality which makes us love and remember many a small and unpretentious plot while the great garden, resulting perhaps from lavish expenditure, may leave us coldly impressed with unloved magnificence." Good photographs of such

small gardens are hard to find, but the present series contains a number which well illustrate this homely thesis.

In most of the vistas illustrated the "tired business man" in overalls and shirt sleeves or even the play of children would somewhat challenge mental interpolation, but the pictures none the less form a splendid collection with something to repay our careful study in each one as we turn to it. The net result is a valuable reference book for the student of architectural design in the garden as well as a book of enjoyment for lovers of the picturesque and beautiful everywhere.

"The determining factor in garden design," says Mrs. Dobyns, "should always be the architecture of the house for which the garden is planned," and in spite of our present prevailing jumble in architectural styles she reassures us that there is slowly developing a definite and natural Californian style for both house and garden which the assumption is some day will prevail. Her few pages of introductory context are so full of pleasant philosophy and charm that we find them all too brief. The foreword by Myron Hunt is likewise written in most happy and opposite vein. An exactly comparable book on Florida gardens as a mate to this would be well worth having. —S. S. B.

WEATHER DURING DECEMBER

Dean Blake, Meteorologist

Our winter begins in December, and the crucial frost period in the avocado and citrus districts usually has its commencement in this month. Nights are cooler, and damaging frosts are to be expected even in the littoral districts. Firing is usually necessary back from the coast, and the growing season in the more elevated regions of the county comes to a close.

Nevertheless, the daytime is usually pleasant and mild, and is never too cold for out-of-door sports and work. Temperatures over 70° are not uncommon, but days with readings over 80° are rarely experienced. At the Weather Bureau station, the thermometer has never gone below freezing, or 32°, during December.

The month is apt to be one of the wettest. Rain is more frequent than during the preceding months, and the monthly average becomes 1.84 inches, almost an inch more than that of November. From 6 to 10 days with rain may be expected.

The rain is usually accompanied by strong southerly winds, and stormy, blustery days. However, gales have never occurred in the harbor, and the maximum wind has never exceeded 35 miles per hour.

The relative humidity is lowest, and, excepting November, more sunshine may be expected than any other month.

THE TWO JACARANDAS

Fidelia G. Woodcock

As the nurseries send out for planting before the rains the graceful fern-like trees of the Mimosa type (but generically not of the Mimosa family) ordinarily known as *Jacaranda ovalifolia*, one notices a variation in the habit of the growing branches. Some are closely set and the little leaves called pinnae are close together. They are rounded and come scarcely to a point. Others are more spreading and come to a long rigid point like a cusp, that sets out quite prominently from the body of the leaf. Trees bearing both the rounded and the pointed leaflets are to be seen in our garden and parking plantings, and we are accustomed to denoting them *Jacaranda ovalifolia*. A synonym is *J. mimosaeifolia*. This tree is 50 feet or more tall. Its flowers are blue, not tending toward violet, sometimes darker than at others. The most recent name now given it is *Jacaranda acutifolia*, in spite of the fact that the points sometimes, indeed often, do not appear. Occasionally one sees both forms of leaflets on the same tree.

Its native country is Brazil, mostly tropical or sub-tropical. With us there is a long wait for blooms in spring, as its blue trumpets appear only in the hottest season and are soon shed, since *Jacaranda* requires both the warmth and moisture of the American tropics. But it is a handsome street tree, here much of a favorite in the parkings. When in summer the flowers fall, they carpet the lawns profusely and remain for some weeks under the trees.

Jacaranda cuspidifolia, on the contrary, has long pointed leaflets, more open and spreading with lace-like effects. Its flowers are a beautiful violet shade. Over other tree-tops the masses of flowers on taller trees are noticeable at some distance. They are most effective in San Diego gardens.

Bignoniaceae—Trumpet Creeper Family, 50 species.

Jacaranda, Brazilian name.

Brazil and southern countries of American Tropics.

We have two species in southern California:

1. *Jacaranda acutifolia*.

Synonyms: *J. mimosaeifolia*
J. ovalifolia.

1. *Jacaranda cuspidifolia*.

MODERN PLANT BREEDERS GO "BACK TO THE WILD"

"Back to the wild" is a motto often observed by plant breeders of small fruits in the United States Department of Agriculture. They have found that crossing established domestic varieties with some of the foreign and native wild types often gives the resultant progeny certain hardy characteristics, which make it resistant to many of the common plant diseases.

Breeding among such fruits as strawberries, raspberries, and similar small fruits has become an important branch of the work of the department, and many investigations in small-fruit breeding are under way, in co-operation with state experiment stations.

Many foreign plants are brought to America for this work, and although many of these are not good varieties in themselves they often have desirable characteristics. When they are crossed with other plants they frequently transmit these characteristics. Red raspberries brought from China and other wild imported fruits are being used for breeding work with some of the well-known American varieties.

ACACIAS

By K. O. Sessions

Acacias are generally known as winter and spring bloomers, for the different varieties bloom at different times, but now late in October *Ac. discolor* is coming into bloom and promises to be an attractive small tree. The light yellow flower balls are arranged in a long single spray 6 to 10 inches long and the leaves are fern-like, medium size and dark green.

A. dietrichiana is another fall variety, a shrubby grower with narrow light green leaves and sprays of pale yellow flowers that are very fragrant and keep well in water.

In November the gray leaf *A. Podalyriaefolia* comes into full bloom with its clear and brilliant yellow flowers—the small tree being most welcome to the late fall garden. By December the favorite and well known *A. Baileyana* is full of buds and blossoms and by March 1st *A. pubescens* is in flower (that rare sort even in southern California), but in general cultivation under glass in the large cities of the east and Europe.

Of late years carloads of *Acacia* blossoms have been shipped East from the San Francisco Bay region. The process of treating the flowers for their preservation, I believe, is a secret. From those who have bought these flowers in the East I learn that they are in a very satisfactory condition and much appreciated. It will be interesting to learn which varieties are shipped. There are probably about 35 varieties being grown about San Diego.

Dr. T. Wayland Vaughan, of La Jolla, has planted a rare collection on the hills above the Scripps Institution of Oceanography. These he raised from seed from Australia.

Acacia prominens is a very fast grower and promises well for our gardens and possibly good for the street. Though it may require considerable pruning. All *Acacias* should be quite heavily trimmed as soon as their flowering season is over. Bone meal is the most reliable fertilizer for *Acacias*.

The Garden

By Walter Birch

Bedding plants are becoming stronger now, so do not delay setting them out while there is some warmth in the ground, giving them a better chance for taking hold at once and making a quicker growth than they would under colder conditions of air and soil.

Cineraria plants set out now in shady locations will give a wealth of bloom in good season. The immense flowers and many beautiful colors produced by the best strains of seed of these beautiful flowers, are a most satisfying sight on the north side of the house, or in groups under trees.

Try some Wallflower plants. These old-fashioned sweet smelling flowers are easily grown and cared for and are fine for clumps or beds.

Make another sowing of Sweet Peas, either the early or summer blooming variety. You will find them easier to raise under cooler conditions, particularly if your soil is not too heavy.

Continue setting out plants of Stocks and Snap Dragons. They are particularly valuable for winter and spring blooming, also Calendula and Nemesia. The latter is better sown where it is to grow; is fine for mass effect and comes in most attractive colors and shades of buff, orange and pink, blotched and striped, growing from 9 to 15 inches high.

Owing to weather conditions in the late summer, the early plantings of Pansies were a failure, but there is now available a very fine lot of strong plants of these popular and beautiful flowers, which should go in the ground as soon as possible, so that you may have flowers at an early date.

Plant some more Tulips and Narcissi bulbs; it is not too late and they are both very much worth while. They both like partial shade and deep planting, 5 to 7 inches, so that they can make a good root system. This is particularly necessary with Tulips, otherwise they come up too quickly and make a poor flower. If you have not used plenty of manure early in the season, work in a handful or two of peat mull and a little bone meal, well mixed with the soil around the bulbs.

Make another planting of Ranunculus bulbs for a succession of blooms. You have plenty of time yet, and there is no prettier flower for garden or house use.

December will soon be here and then it will be rose planting season again, so it is time to get the ground ready for the rose bed. And this means deep, deep spading and plenty of well rotted manure. Many people trench two feet deep, putting manure six inches deep in bottom of trench and a few inches more halfway up, keeping bed well watered and cultivated until planting time, and then using a mulch of well rotted manure on the surface. This may look a big job to the owner of a small garden, but the idea to be grasped is, use plenty of good cow or stable manure, dig deeply, and do it now!

Be sure to buy good rose stock budded on ragged robin roots, medium or large size bushes, as it does not pay to plant light stuff and wait an extra year for your blooms. When planting be sure to dig large holes at least 15 inches deep and wide enough to receive roots without cramping them.

It is well to select the varieties you wish to plant in good time and place your order early, to insure getting the varieties you wish.

Some of the outstanding new ones this year are Olympiad, beautiful glowing oriental scarlet, perfect in form and very fragrant. Mrs. Sam McGredy, beautiful copper or orange, flushed Lincoln red on outside of petals.

Edith Nellie Perkins, inside of petals salmon pink with orange center, outside blush color.

Duchess of Athol, old golden orange, flushed peach-pink, an uncommon color.

President Hoover, a beautiful combination of pink, yellow and copper, and Talisman, glorious buds of yellow, pink, scarlet, apricot and old rose, strong stems and firm foliage.

And of course there are others, but these with some of the old favorites will give you a wonderful rose garden.

If you have not renovated the old lawn already, get busy now and make it look decent for Christmas, or it will spoil the effect of your flowers or other attractive surroundings.

If the vegetable garden interests you these hard times (or should I say challenging times?) just get your ground in good order and plant radish, lettuce, carrots, cabbage, cauliflower, Broad Windsor beans, etc. Cut out some of the meat, take a hitch in your belt and feel young again. Of course these remarks only apply to young fellows like myself; the ladies, God bless 'em, always look young and pretty!

WATER GARDENS

Many people wonder why their Water Hyacinths turn brown and gracefully fade away. In every case we find they have been allowed to float around—moved by wind or running water. All so-called floating plants are not to be taken literally; i. e., they need not necessarily be planted in soil, but if allowed to drift around their fibrous roots are absolutely dragged to their death, for even though water is "soft" it is also quite resistant. Not even one of California's famous never-dying red Geraniums would survive if its roots were never allowed to lie still.

The Shell Plant, Water Lettuce, Water Fern, Azolla, Duck-weed, Water Snowflake, Water Violet and all plants of this class do really draw their sustenance mainly from the water, but they must be anchored between lily pads, or in a sheltered corner, or in any way that suits your convenience. But they also love to send those long white roots down through a few inches of water into some good old mother earth. They will reach down two feet to find her and then—oh, how they grow. Part of this is also from the fact that the roots always grow much better in darkness, rather than light. Like people, they like a certain amount of privacy.

At any rate, one can place this variety of plants so their roots are partially protected from light. This summer we had Hyacinths in a sloping corner of a pool which was partly sheltered by low rock work. They blossomed luxuriantly and soon threw out runners which crept up the side of the pool and soon were entirely out of the water, but these runner plants blossomed unconcernedly, supported by nourishment from the stem connecting them with the mother plant. Some of your floating plants are quite tender hearted and mourn the passing of summer heat until they are only a memory; i. e., the Fern, the Lettuce and Shell Plant. But they are so very inexpensive that a new supply means only the cost of so many ice cream sodas. The hardy ones go partly dormant but survive along with the lilies. As you probably know, the only winter growing water garden plant is the Hawthorne, which gets its name from the fragrance of its blossom. The spikes of bloom are forked and are

very conspicuous because their whiteness is speckled by their black anthers. They enjoy deep water—two or three feet, more if you have it—and the bulb from which they grow gets larger each year with corresponding larger leaves and blossoms. As warm weather comes the bulb takes a rest until the water cools off again in fall when it again starts growth. It is a very attractive plant, and especially so because it has the winter water garden all to itself.

Some botanists tell us of a violet blooming variety—"very rare"—so much so that no catalogue or dealer ever gives us even a hint as to its existence. Of course we would love to find the violet bloomer but the white variety is so charming you are losing half the comfort of your pool if you have not one or more to brighten it during the dormant season of all other occupants.

BERTHA M. THOMAS.

PERENNIAL ASTERS

European Hybridizers Busy

The genus aster, like many another compositae, has much to offer the garden maker, not alone for the hardy border, but for the rock garden as well. Although we in America have been blessed with not a few fine species, it has taken Europeans, with centuries of gardening experience back of them, to sense the possibilities of our possessions. Thanks to them, we may now adorn our gardens with many a beauty of garden origin, as well as native species.

The ubiquitous plant quarantine keeps many of the new things out of our reach for awhile, but eventually they filter through and are finally made available to American gardeners. In the meantime, is there not someone in America who can and will take it upon himself to work with this family of plants? It is apparent that, after viewing the present situation of aster culture, there are many possibilities yet to be realized.

Of greatest importance from the garden standpoint is the so-called Michaelmas daisy group. Here we find a wealth of fine material for the fall garden—material with which the average gardener is not at all familiar. It takes no more than a showing of some of the better varieties to make converts of every garden enthusiast.

Michaelmas Daisies

The show garden might well include the following: Avendrothe has rosy red flowers in September and October on five-foot stems. Blue Gem is a rich, deep blue and extremely double, probably the best blue in this country, with stems four feet high, blooming in September.

ber and October. Climax, although an old variety, is still one of the best of its color—lavender blue—with two-inch flowers on five-foot plants from August until midfall. Elta is a good late cut variety, producing quantities of pale lilac flowers on three-foot plants during October. Lady Lloyd has rose-pink flowers on four-foot plants during August and September.

Mme. Emile Thoury is earlier than Climax, the old standard for earliness, but early September sees its finish as far as flowers are concerned. The blooms are an aegeratum blue on stems three feet high. Peggy Ballard produces rosy mauve flowers on three-foot plants, during September. Queen Mary is new to this country, but is surely destined for great popularity. It has exceedingly blue flowers in conical heads three to four feet high during September and October. Sam Banham is pure white, blooming in August on three-foot to four-foot stems. This is probably the best white aster now available in America. When you compare this list with some English lists you will see how far behind we are in aster varieties, and, thanks to the plant quarantine, we are apt to continue lagging.

Propagation

Propagation by means of divisions is rapid enough for all general purposes, but cuttings may be employed if exceptionally rapid increase is desired. Then, too, there is the matter of seeds. It is impossible, of course, to grow the named varieties in such a way and keep them true, but a batch of seedlings grown each year, will hold many a pleasant surprise for the grower. Even though one eventually throws most of the plants away, there are always some good enough to keep and there is always the possibility of getting something good. Seeds sown in heat in early spring will produce plants that will bloom the first year, so one has not long to wait for the verdict.

In addition to the Michaelmas daisies, there are a number of species that we need in our gardens. It would be impossible to mention all of them here, so I shall confine myself to a few of the more uncommon ones.

Aster campestris, said to be a mountain species of our own country, though I have never seen seeds or plants listed here and I had to send to Europe for the only seeds I ever obtained, is an eight-inch to twelve-inch plant, producing its blue flowers with yellow centers during June. It is not a difficult plant, nor is it so easy as more asters, requiring a little more root moisture than is to be had in the average rock garden. I should like to get the plant again, if a source of supply is known to any Review reader.

Rare Species

I have not seen *Aster Canbyi*, but friends tell me it is one of the best of the western mountain forms. It is said to be about eight inches high, producing its deep pink to lilac flowers in May or June. It is said to require a peaty soil, like that required by most asters, in full sun. The plant is available in this country.

Another rare native is *A. Forrestii*, a six-inch to eight-inch plant with large lavender blue flowers at the usual alpine aster season. This new type comes from the Mount Rainier district and should be tractable in eastern gardens, probably requiring peat or sphagnum in the soil to counteract the dryness of the climate. More will be written about that later, after it has been more thoroughly tested.

Aster linariifolius, the double-bristled aster of eastern United States, is one of the loveliest of the fall-blooming species, yet one seldom if ever sees it in plant catalogues. It is an eight-inch to twelve-inch plant, comely and compact, with large violet flowers in fall. It is not easy to grow from seeds, as anyone will testify who has essayed the task. It may be grown that way, however, but I am not yet ready to say which is the best method. In any case, this aster must have a soil of moderate acidity and either full sunlight or light shade. It is a lovely thing which gardeners should know about.

Asiatic Forms

A few Asiatic asters deserve special mention. The first of these, *A. Delavayi*, was described in this column two or three years ago, when it first became generally available in seeds. Two or three growers who took the advice to stock up on this plant say that they have not been able to grow enough to supply the demand. A catalogue is before me as I write these lines, with the notation "sold out" stamped across the paragraph describing *A. Delavayi*. The flowers are solitary, large and of a charming shade of lavender blue, with a black disk. This aster has the curious habit of twisting its ray florets over the black disk, thereby adding to the charm of the plant.

Not exactly new, but still rare in America is *A. Farreri*. This is a foot-high plant, with violet flowers and orange centers, coming in late June and early July—a fine thing that will be in demand when garden makers see it.

A. yunnanensis, another Asiatic species, deserves wide distribution. Its flowers are large and of a brilliant clear blue on twelve-inch to fifteen-inch stems, produced freely during most of June and part of July.

There are two more species which come to mind that should be used to give color to the

late months of the garden year. One, *A. sericeus*, is a native of North America. It is a silvery-leaved plant, growing from fifteen to twenty-four inches high and producing its violet flowers in August and September. The other, *A. sibiricus*, comes from Siberia, as its name implies. It is a fifteen-inch plant, having lilac flowers with yellow centers during September.

One might go on for page after page extolling the virtues of the aster family, but the foregoing must suffice for the present. There is much business to be done in these plants during the next few years, particularly in the matter of rock garden species. I have not named half of the low-growing sorts, and there are new ones continually coming to light, so we have much material to work with—(C. W. W., in *Florists' Review*.)

PANAX

Fidella G. Woodcock

The name *Panax*, signifying panacea or all-healing, has been given to the whole ginseng family, of which there are several important genera used medicinally. Some of the ornamental species found in parks and parkings, as well as in our common gardens of southern California, are very showy, tall shrubs with large leaves shaped like the hand. This form of leaf is digitate or palm-shaped foliage. The usual height is up to 12 feet, or the size of a small tree.

Tetrapanax, our most striking genus, has much golden wool on the flowers and the underside of the broad leaves is covered with felt, sometimes white, sometimes golden brown. The wool is deciduous, however, and floats in the air, becoming injurious to the eyes and is likely to be inhaled, causing injury to the lungs. It is not desirable to be planted near windows.

Tetrapanax is the source of the rice paper tree of Japan, that originally was known as *Aralia papyrifera*, but on account of its four-parted flower the word *Tetra*, meaning four, is now used in the generic name and it is known botanically as *Tetrapanax papyrifera*. It is grown out-of-doors in the south, but is not a hardy shrub.

Other species for landscape grounds:

Acanthopanax, a prickly species.

Echinopanax, "Devil's Club."

Nothopanax, simple or compound leaves.

Oreopanax, Tropical American, grown under glass.

These species generally are conspicuous by their bright umbels of berries. *Tetrapanax* is an exception. The plant is subtropical, of Formosa. *Fateia* is a small tree of Japan, but

Aralia covers the whole field of Ginseng.

Araliaceae — *Tetrapanax papyrifera*. Rice Paper Tree.

STRAY THOUGHTS

When I returned from Honolulu I brought with me seeds of plants that luxuriate there, with the thought in mind of giving them trial in the gardens of this Southland. Nothing ventured, nothing won. There were three vines that attracted my attention; two of them belonging to the *Convolvulaceae*, rampant of growth, and wholly different in appearance.

One of them is known on the Island as Wooden Rose Vine. This queer name is given the plant because the seed vessels are firmly attached to the persistent calyx, the sepals spreading out in a five-pointed star. The seed pod does not dehisce as is the case with *Morning Glories*. The vine is smooth as though polished, and of a dark color. The foliage, six inches in diameter, divided into seven segments, almost to the petiole. It is known there as *Convolvulus tuberosum*. This, I believe to be a misnomer. The flowers are golden yellow, and according to Bailey it should be known as *Ipomea digitata* Var. *Aurea*. However, I shall not argue the point. Its companion is known as *Argyreia tiliaefolia*. It is a wonder for growth, and the foliage marvelous for size, six to twelve inches diameter, the entire plant covered with pure white tomentum. Grown together the two plants are a symphony in colors. Up to date, neither one has shown a disposition to bloom. I'm curious to know how they will fare when the nights become frosty.

Another vine known as Sand Paper Vine, because the underside of the leaves are like unto sand paper. Its proper name is *Petreaea volubilis*. It shows a disposition to adapt itself to our outdoors. The flowers are a delicate blue; only one among a hundred of them fertile. I spent two hours on hands and knees beneath a vine to get seeds enough for a trial. It is evergreen. For the benefit of other enthusiasts who care to try these novelties and wish to get plants, Coolidge Rare Plant Gardens of Pasadena have them for sale. I wonder how many readers of this magazine know *Distictis cinerea*? To my notion, it is the most beautiful of the climbing section of *Bignonia* family. A profuse bloomer, the flowers salver shaped, of a beautiful blue. Three years ago I received from the Bureau of Plant Industry a small plant of the Mulberry tribe, under the name, *Cudrania tricuspidata*. It is an evergreen, a half brother of the old Osage orange, and quite as thorny. The fruits are borne on the old wood, in clusters. Bright red at this season of the year, the shrub is a valuable addition to our berried plants. Moreover, they are edible, and of a fairly agreeable flavor. As a hedge plant

let us indulge in the hope that it will take the place of the ubiquitous Privet. Certainly it is more beautiful in foliage, and as a protection for orchards and gardens against thieves it is incomparable. It is my opinion that it can be easily grown from cuttings of ripened wood. I shall try it in that way this season.

What a lot we yet have to learn about plant life that will lend itself to cultivation in the open in this Southland. I am led to this remark on account of the behavior of some *Lopazia rosea*, this season. Left to itself, it is now climbing up the south side of a Cypress hedge with the apparent intention of going to the top. All winter long those plants will be in bloom, to the joy of a colony of bees in the Garden.

PETER D. BARNHART.

THE CULTIVATION OF GARDEN LILIES

(From the Journal of the New York Botanical Garden, and Prepared by Dr. A. B. Storet)

Most of the difficulties experienced in the growing of lilies have, in the past, been attributed chiefly to unfavorable conditions of culture. It is no doubt true that some lilies are naturally delicate in growth and that certain lilies require somewhat special conditions of culture.

As a rule, garden lilies enjoy good drainage and a fairly rich well-worked soil, but these conditions usually exist in the average flower garden. They benefit by the protection of a ground cover of some shallow-rooted low-growing plant, as the Japanese *Pachysandra*. An interplanting with various perennials, providing partial shade to the soil in which the lilies are growing, is desirable for most lilies. A mulch of leaves or straw in winter will often prevent too severe freezing and thawing of the soil and the bulbs. When plants grow rather thickly together, of varieties that are abundantly stem-rooting, the soil above the bulbs soon becomes more or less filled with the dead roots of successive generations of plants and is much impoverished. In such cases it is advisable each autumn to work the soil down to the top of the bulbs, removing the dead roots and adding rich soil or fully decayed compost. Unless a group of lilies is multiplying so rapidly that the plants become crowded, there is no necessity to dig up and replant the bulbs of any lily that is properly planted. To supply these cultural conditions is not difficult: they have been supplied in gardens to lilies that have failed to grow well.

A better understanding of the various aspects of culture for many varieties of lilies is greatly to be desired. But for the present time it is to be recognized that there are some 15 kinds of lilies—certainly at the very lowest figure, ten species—that will thrive under the average cultural conditions which are already given

to them in many flower gardens. It is the repeated failure of these hardy garden lilies that is the chief concern at this time. In many cases, failure with these lilies cannot properly be attributed merely to poor cultural conditions.

THE DIFFICULTY OF OBTAINING "GOOD" BULBS

The physical condition of lily bulbs at the time when they are received by the gardener is a most important factor in determining the success or the failure of the transplanting. The very best of cultural care is of no avail when the condition of the bulbs dooms them to a poor existence and an early death. Besides, to determine the best methods of culture with such bulbs is quite impossible.

The removal of lily bulbs from the soil for a period during storage and shipment is without a doubt chiefly responsible for bulbs becoming of poor condition. Lily bulbs do not naturally have a dormant or resting period, unless it be in mid-winter. The death of the flowering stem above ground does not signify that the parts of the plant below the ground have become dormant, the new or daughter bulbs remain more or less active. They continue to develop and to prepare the flower stalk and its flowers for rapid growth in the following year. Many of the roots soon grow almost to their maximum development and they remain alive over winter, ready to resume their functions in the following spring.

When lily bulbs are dug for the trade, their roots are usually destroyed. The continued and proper development of the bulbs is retarded and hindered during the period of storage and shipment. When replanted these bulbs must form a new set of roots, and this they often do sparsely. Even under the best of the present-day methods of storage and shipment, lily bulbs lose considerable moisture, and the outer scales, especially, are more or less dried out, much bruised, and broken.

It is considered by some that bulbs are overforced by bulb growers in the effort to obtain bulbs of extra size for the market and that this practice weakens bulbs, makes them more susceptible to disease, and leads to the poor development in following years. On this assumption gardeners have been advised to purchase only medium-sized bulbs. It does not appear that this important matter can be decided in a fully satisfactory way from the evidence now at hand.

The physical condition of the lily bulbs received through the trade for garden plantings can be greatly improved. The length of time they are kept out of the ground should be reduced to the shortest period possible. Better

methods of storage and of shipment can no doubt be employed. But lily bulbs, especially of certain species, do frequently come to the grower in good condition, which shows that if the best methods of handling bulbs now in use can be more rigidly followed greater success may be assured. At least there is no excuse for the use of coarse excelsior or sawdust as a medium for packing lily bulbs.

Perhaps bulbs could be shipped, certainly for shorter distances, with the roots intact in the soil more or less as they were rowing. The gardener, or two or more gardeners together, can buy lily bulbs in case lots. Then the bulbs will come to hand more promptly and will escape the injuries that result from the repacking necessary for distribution to the trade when small lots are ordered. Any dealer in bulbs will be willing to sell bulbs in case lots and he can do this at cheaper rates per dozen or hundred. The matter of handling bulbs, and especially those of garden lilies, deserves careful consideration.

The Destruction of Living Lilies

The disappearance of lily plants that have been flourishing in a garden for several years is a frequent matter of discouragement to the gardener. There are various causes for this experience.

Certain of the lilies habitually make only one new daughter bulb each year. Such plants do not readily multiply and give an increase in the number of flower stalks in successive years. Whenever conditions arise that check or prevent the formation of a new daughter bulb by a single lily plant, that plant disappears. An unfavorable season for growth during critical periods in the development may give rise to this condition.

The bulbs of some lilies, among garden lilies, *L. tenuifolium*, for example, have the reputation of blooming only once or at least only a few times. Such species are to be propagated from seed or by special vegetative propagation. It will probably always be necessary for gardeners to replenish rather frequently their stocks of those lilies that do not readily make new daughter bulbs.

But we are to be reminded that there are a number of species which naturally multiply and which will sometimes remain established in a location for a number of years. Among such species may be mentioned *Lilium tigrinum*, *L. Henryi*, *L. croceum*, *L. regale*, *L. candidum*, and *L. speciosum*. Among the species that do not usually multiply but which may remain in much the same numbers year after year, *Lilium auratum* and *L. superbum* may be mentioned. It is the sudden disappearance of such species as these after they have become estab-

lished in a garden that challenges attention and demands solution.

The knowledge of lily diseases is rather meager, incomplete, and unsatisfactory. Fortunately, a study of lily diseases is now in progress under the active co-operation of the Horticultural Society of New York, the Boyce Thompson Institute for Plant Research, the New York Botanical Garden, and the Department of Plant Pathology of Cornell University. An investigator, Mr. Carl F. Guterma, has been secured and is now devoting nearly all of his time to the subject of lily diseases. It is expected that he will be able to determine the different diseases of lilies, to describe their symptoms, and to prescribe means of treatment. Results of much practical value to gardeners and to the bulb industry are certain to be obtained and freely given to all. The successful and more general culture of lilies awaits such knowledge.—(Horticulture).

ORCHIDS FOR THE OUTDOOR GARDEN

By A. H. Darnell

(L. Reeve & Co., Ashford, Kent, 1930; 42s. net)

Realizing the lack of an authoritative monograph on the orchids capable of being grown in the open ground in temperate climes, the author of this fine volume has brought together concise descriptions and notice of the probable cultural requirements of the nearly 1,000 species for which he feels there is some ground for anticipating successful garden culture under conditions such as prevail at least somewhere in the British Isles. Of course many of these species are inconspicuous, many others curious or quaint rather than beautiful, but many are magnificent subjects which we may hope some day will be attempted in the more favored parts of our own region. The fact that a surprising number of the species and genera are said to favor sun and dryness may indicate that our chances of accomplishment in this direction are greater than most Californian horticulturists have supposed, and we must deem it fortunate that the emergence of a new and healthy interest in the subject among the more pioneer-minded among us has so nearly coincided with the appearance of such a helpful book. A brief, but excellent chapter on propagation and a useful glossary and index are included. Some 21 species belonging to as many genera are figured in a series of well-printed plates, but one can not avoid feeling that the book would have been improved by more abundant illustration, both in line and color. With anything so complex as an orchid, description can never fully take the place of delineation. As usual in horticultural works of British origin the typography is excellent.

—S. S. B.

**RAINBOW FRAGMENTS, A GARDEN BOOK
OF THE IRIS**

By J. Marion Shull

(Doubleday, Doran & Co., 1931; \$3.50)

Advertised as a standard manual on the culture of the tall bearded Iris, the present reviewer has failed to get an impression that the book is properly of that category. Rather does it seem more readily definable as a group of essays which constitute a highly individual contribution to the growing literature of this increasingly popular genus, and which vary considerably in scope, in thoroughness of treatment, in point of individual appeal, and in literary charm. No previous book on Irises is in fact at all comparable. Only the tall Pogon-irises are dealt with, these being the ones which the author has mainly been engaged in growing and breeding, as well as the most valuable for adding color to the garden picture.

High lights in the book are three. First, the wholly charming introductory section, a prose poem without pathos, which tells of an America now mostly in the past and mentions Irises but incidentally. This essay alone would be sufficient to justify the publication of almost any book containing it. Second, the chapters on cultivation and care, and on production of new varieties are written not only with practical conservation, but with refreshing simplicity and clearness, and the reviewer is able to recall having encountered no handling of this subject elsewhere quite so satisfying. Essential genetic principles involved, including chromosomal heredity, pollination, fertilization, and so on, are set forth so lucidly that no non-biological reader need have the least difficulty in their comprehension. The third feature of the book which impresses the reviewer is the chapter on Iris as Garden Material. In the development of this theme Mr. Shull is at his best, his discussion of garden groupings being particularly useful and good.

The remaining portions of the volume are hardly so satisfying, although the notes given in the "List of Better Varieties" and the still more extensive tabulation are so carefully done and so well organized that we should probably be appreciative that the essential qualities of so many varieties are thus lucidly set forth, and not cavil at the many conspicuous omissions or the circumstance that the list chosen is not better suited to us here in the west. The illustrations will be pleasing to many, but color printing is still in its infancy and it is doubtful if justice has been done either to the author's beautiful paintings or to the Irises themselves. binding and typography are excellent.

—S. S. B.

FERNS FROM SPORES

By K. O. SESSIONS

To grow ferns from spores (the seed) success is sure when the proper preparation of the soil is made.

Powdered brick dust with a little powdered charcoal placed in a well drained, shallow pot or deep saucer. Heat for half an hour to sterilize all and when cool moisten and then sprinkle evenly the spore or spore dust over the top. Place this in a larger pot and stand in a saucer of water and place glass over top of large pot. Keep in a warm place—in a glass house or on a window ledge. The glass cover will maintain a surface humidity which is very necessary.

In a month a green mossy appearance will be seen and soon the little ferns will begin to appear. When an inch high they can be transplanted into small pots filled with finest leaf mold soil and some peat mixture and charcoal dust.

Maidenhair ferns will generally fill a five-inch pot in twelve months from spores.

**BRITISH FIRM'S SUCCESS AT AMERICAN
EXHIBITION**

Mr. Peter Barnhart's letter in the September number spoke of a fine English Vegetable Exhibit. Here are some bare facts of this exhibit:

"To the second Atlantic City Flower and Garden Pageant, held in New Jersey, a collection of vegetables of Messrs. Sutton and Sons, Reading, weighing no less than five tons, was dispatched to America in cold storage by the S. S. 'Mauretania,' and was carried from New York in refrigerator cars to Atlantic City. The Exhibition, which opened on September 4th, was held in the largest hall in the world, and we learned that Messrs. Sutton had in effect swept the board with regard to awards, gaining the first prize of 250 dollars, the cup valued at 50 dollars offered for an exhibit of not less than 500 square feet of vegetables, a special gold medal, and last a trophy valued at 250 dollars offered for the best exhibit in the show. The collection of vegetables was the largest and most comprehensive exhibit ever staged in the United States, comprising no less than 70 kinds and over 350 different varieties, noticeable among them being magnificent Onions, Carrots, Beans, Celery, as well as lesser-known vegetables, such as Capsicum, Chili, Aubergine, Celeriac, Scorzoneria, and Endive. Remarkable enthusiasm was evinced by the public visiting the show, and the exhibit was thronged with visitors from morning to night."

K. O. Sessions.

AZALEAS AND CAMELLIAS

By H. H. Hume

(The Macmillan Co., 1931; \$1.50)

The growing interest in azaleas and camellias in Southern Californian gardens stimulated by the success which certain of the specialty nurseries, notably the Coolidge Rare Plant Gardens of Pasadena, have attained in growing them, makes Mr. Hume's little book a particularly timely contribution. The culture of both these glorious shrubs is still pretty much in the experimental stage in a good many parts of this western country including our own. We have a wide variety of climate for a circumscribed area and it will doubtless be yet some years before we can be certain just which spots will be best adapted for successful growing of these subjects. Meanwhile they are worth giving careful trial everywhere, and the painstaking gardener will therefore welcome the aid of so informing a little volume as Mr. Hume has given us. It is the taking of such simple precautions in choice of site and preparation of soil as he outlines to us, which so often suffices to change uncertainty or inevitable failure into a fair likelihood of success, and it is precisely such precautions which otherwise in his experience the ordinary garden owner might not be led to adopt in time. Both azaleas and camellias are ordinarily expensive plants and one wishes to do all one can to make the first planting a permanent one. Both demand plentiful humus and, the camellia less insistently perhaps than the azalea, distinctly acid soil. We have one fine azalea wild in our own mountains and there thus seems no reason why there if nowhere else we should not succeed in making additional species at home. Mr. Hume finds that camellias will do well in both sun and shade, being in fact among the best plants for shady spots that we have, whereas azaleas as a rule must be given considerable sunlight. He warns particularly against exposure to wind laden with ocean spray. Some tempting lists of varieties are given, there is a valuable chapter on soil treatment, and full directions are set forth for propagation, planting, and later care. The author renders willing homage to the city of Sacramento for the public spirit there shown in the planting of camellias as a community feature and the remarkable results in this direction already attained.—S. S. B.

At Ballarat, Australia, an autumn show was held in April, 1931. It was its 72nd annual show (certainly a fine long record). The whole show breathed quality from end to end and the increase of patronage proved that a larger hall is needed for these fine shows to hold the exhibits as well as the people who come to see them.—Garden Lover Magazine, Melbourne, Melbourne, Australia, May 1, 1931.)

STUNTING GROWTH MAKES SOME PLANTS POISONOUS

A number of our wild and cultivated plants are known to be somewhat poisonous to livestock on account of a cyanogenetic glucoside developed by the plant during its growth processes, says the United States Department of Agriculture.

This glucoside when taken into the animal's stomach is broken down and sets free hydrocyanic acid which is a deadly poison, sometimes called prussic acid. The quantity of this potential poison developed by the plants is increased very much when the growth of the plant is interrupted in any way as by a period of acute drought, frost, bruising from trampling down, or stunting from any cause.

Some of the important cyanogenetic plants of the United States are: Choke cherry, black cherry, sorghum, Sudan grass, Johnson grass, arrowgrass, and velvetgrass. When healthy and making a normal growth Sudan grass and Johnson grass are never or rarely dangerous to pasture, but care must be observed in pasturing them with cattle or sheep when the growth is stunted for any reason. Cured as hay neither of these grasses has ever been known to kill cattle. Sorghum, when immature, is always dangerous as pasture. The quantity of the glucoside decreases as the plant approach maturity, and when the seed are ripe sorghum can be pastured or fed to cattle as cured hay or fodder safely, unless stunted by drought or some other cause.



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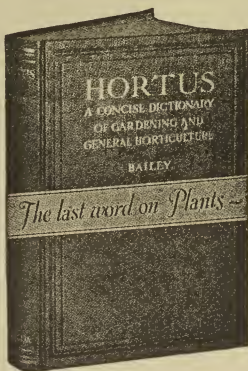
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